Claims

1. An apparatus comprising:

a first Minimum Mean Square Error (MMSE) receiver having a signal as an input, wherein the signal was transmitted utilizing a transmit-diversity scheme; and

a second MMSE receiver having the signal as an input.

2. The apparatus of claim 1 further comprising a first despreader having an output from the first MMSE receiver as an input and despreading the output from the first MMSE receiver with a sector-specific long code to produce a first despread output.

3. The apparatus of claim 2 further comprising a second despreader having an output from the second MMSE receiver as an input and despreading the output with a second sector-specific long code to produce a second despread output.

4. The apparatus of claim 2 further comprising a second despreader having an output from the second MMSE receiver as an input and despreading the output with a the sector-specific long code to produce a second despread output.

5. The apparatus of claim 2 further comprising a third despreader having the first despread output as an input and further despreading the first despread output with a first Walsh code.

6. The apparatus of claim 5 further comprising a fourth despreader having the second despread output as an input and further despreading the second despread output with a second Walsh code.

7. The apparatus of claim 5 further comprising a fourth despreader having the second despread output as an input and further despreading the second despread output with the first Walsh code.

8. A method for Minimum Mean Square Error (MMSE) reception of a signal, the method comprising the steps of:

receiving a pilot signal at an MMSE receiver;

performing a channel estimate for the received pilot signal;

5   determining a mean-square error of the pilot signal estimate;

updating a weighting vector for the pilot signal estimate in order to minimize the mean square error of the pilot signal estimate; and

applying the weighting vector for the pilot signal estimate to a second channel.

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9. The method of claim 8 wherein the step of receiving the pilot signal at the MMSE receiver comprises the step of receiving a Code Division Multiple Access, CDMA pilot signal at the MMSE receiver.

15   10. The method of claim 9 wherein the step of applying the weighting vector to the second channel comprises the step of applying the weighting vector to a traffic channel.

11. A minimum mean square error receiver (MMSE) comprising:

a pilot channel input;

a second channel input;

an output comprising an estimate of the pilot channel, wherein the estimate

5   of the pilot channel is determined by applying a weighting vector to the pilot channel; and

a second output comprising an estimate of the second channel, wherein the estimate of the second channel is determined by applying the weighting vector to the second channel.

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12. The MMSE receiver of claim 11 wherein the second channel input is a traffic channel input.

13. The MMSE receiver of claim 11 wherein the traffic channel input is a Code

15   Division Multiple Access (CDMA) traffic channel input.

14. The MMSE receiver of claim 12 wherein the pilot channel input is a CDMA pilot channel input.

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